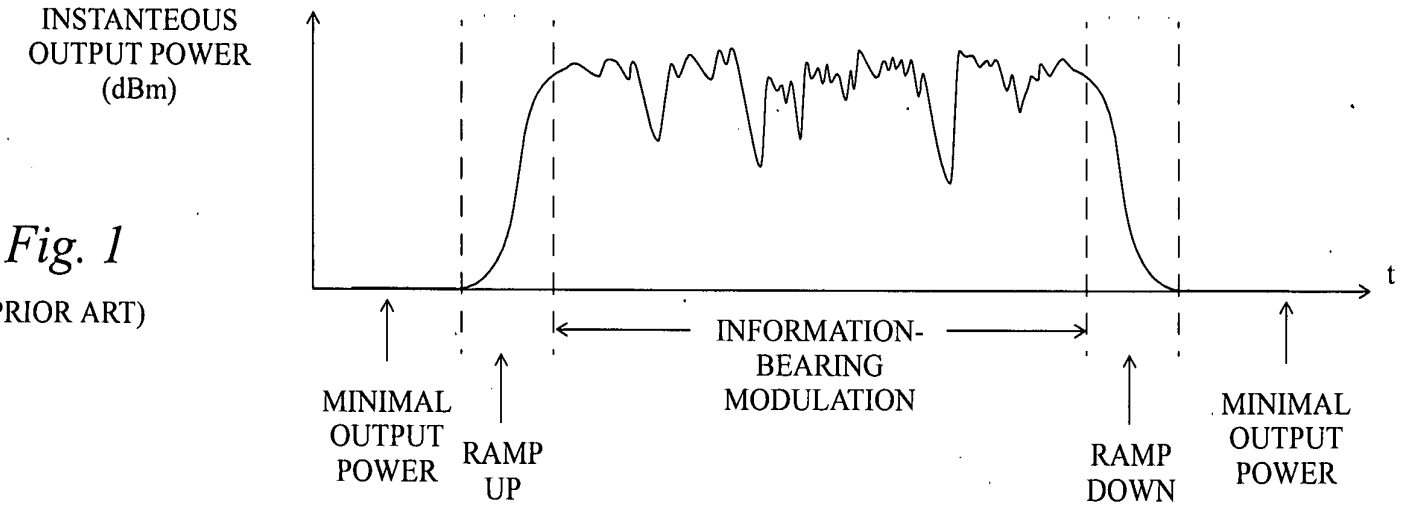


Fig. 1

(PRIOR ART)

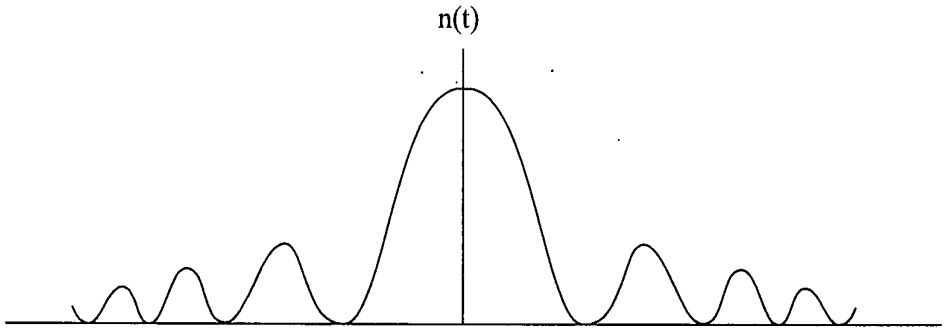


Fig. 13

(PRIOR ART)

Fig. 2

(PRIOR ART)

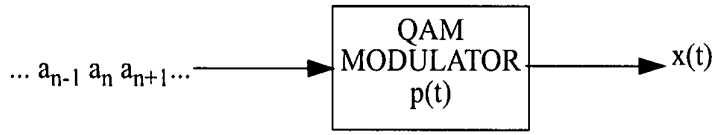


Fig. 3

(PRIOR ART)

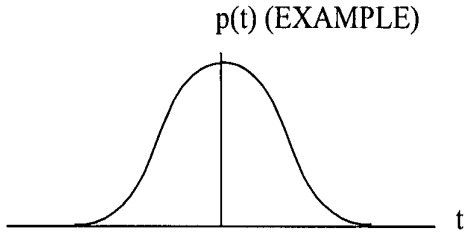


Fig. 4

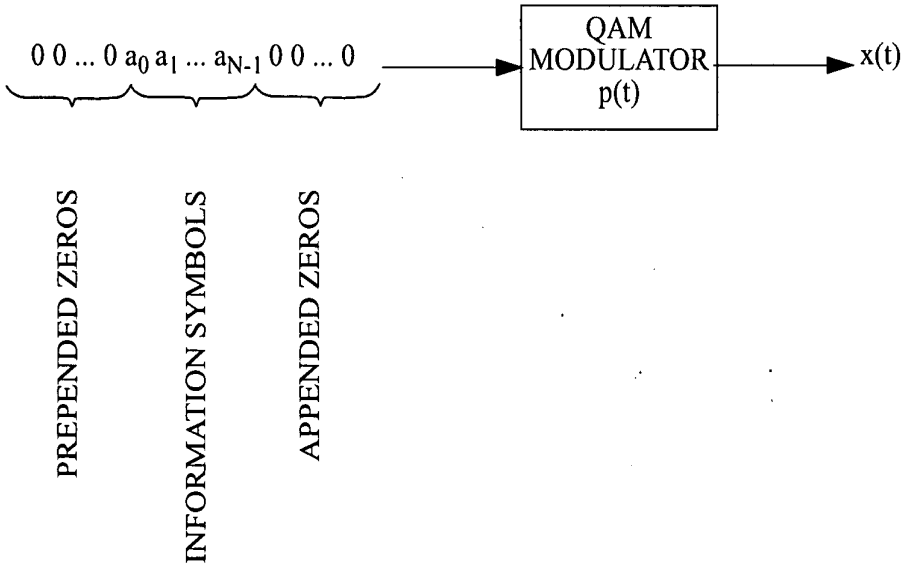
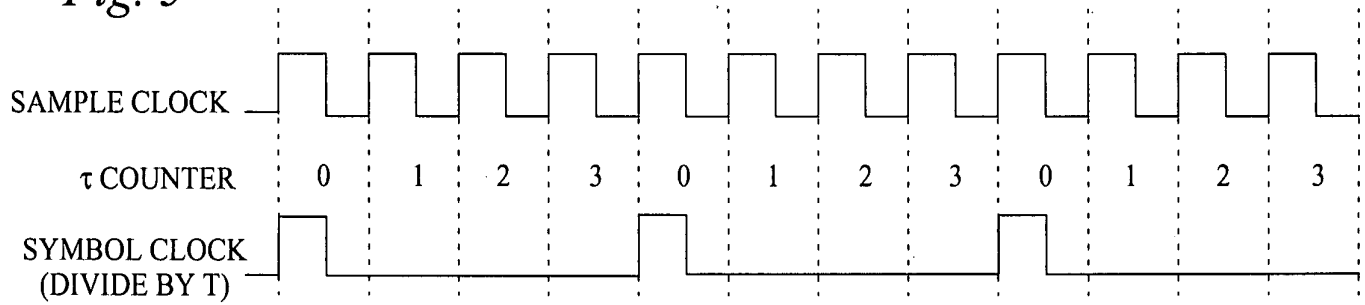


Fig. 5


SAMPLE CLOCK
τ COUNTER
0 1 2 3 0 1 2 3 0 1 2 3
SYMBOL CLOCK
(DIVIDE BY T)

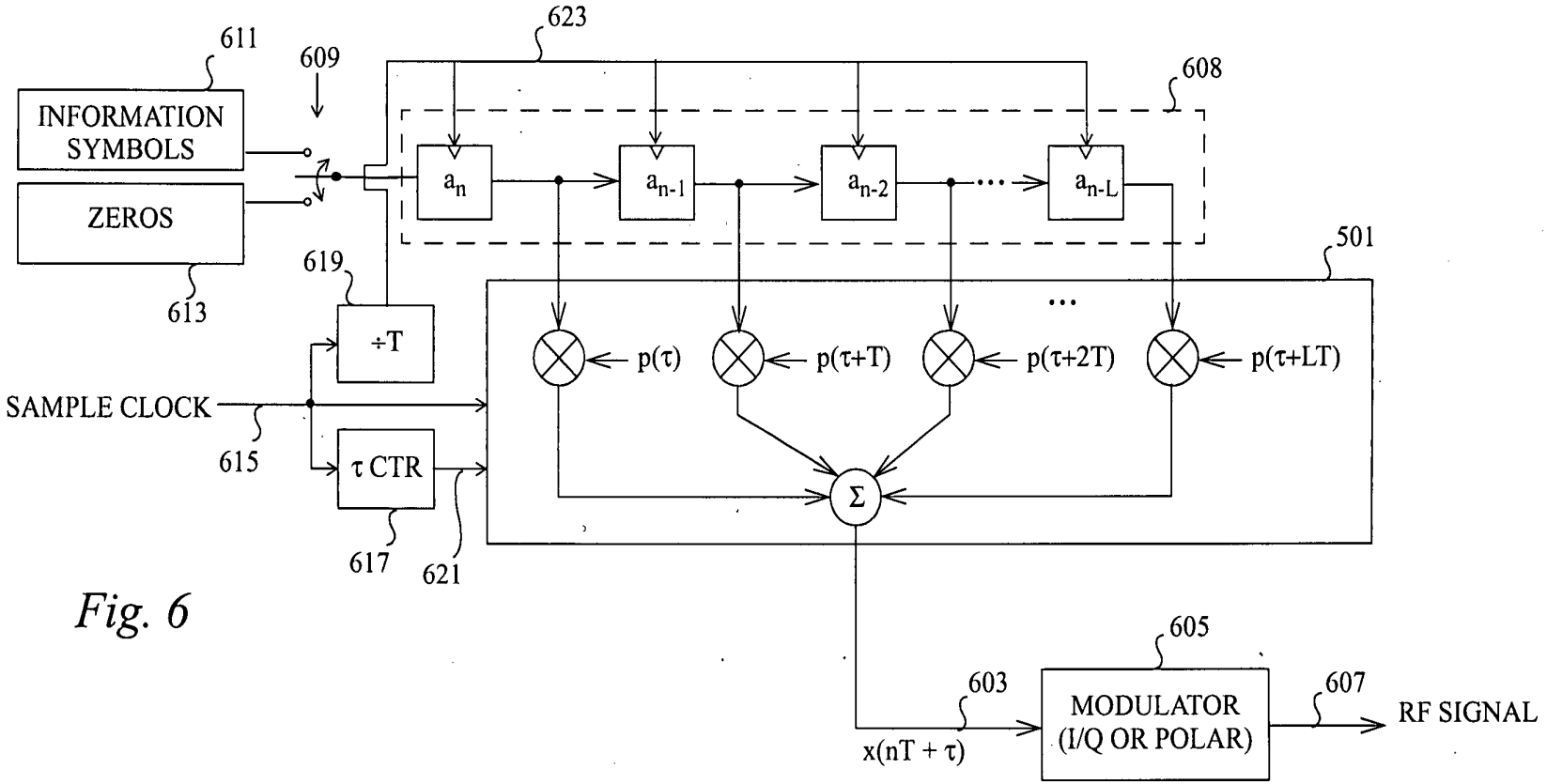

611
609
623
608
INFORMATION SYMBOLS
ZEROS
613
619
÷T
SAMPLE CLOCK
615
τ CTR
617
621
501
a_n
a_{n-1}
a_{n-2}
a_{n-L}
p(τ)
p(τ+T)
p(τ+2T)
p(τ+LT)
Σ
605
603
607
MODULATOR (I/Q OR POLAR)
RF SIGNAL
x(nT + τ)

Fig. 6

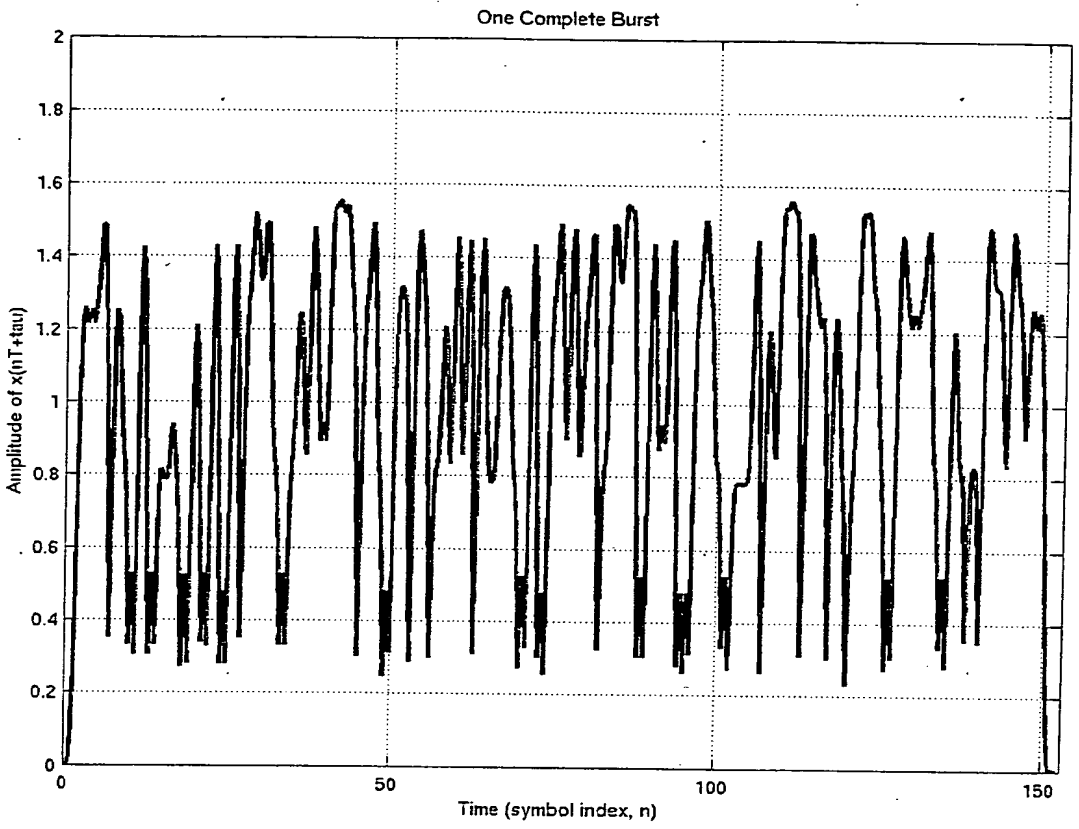

One Complete Burst
Amplitude of x(nT+tau)
Time (symbol index, n)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0
50
100
150

Fig. 7

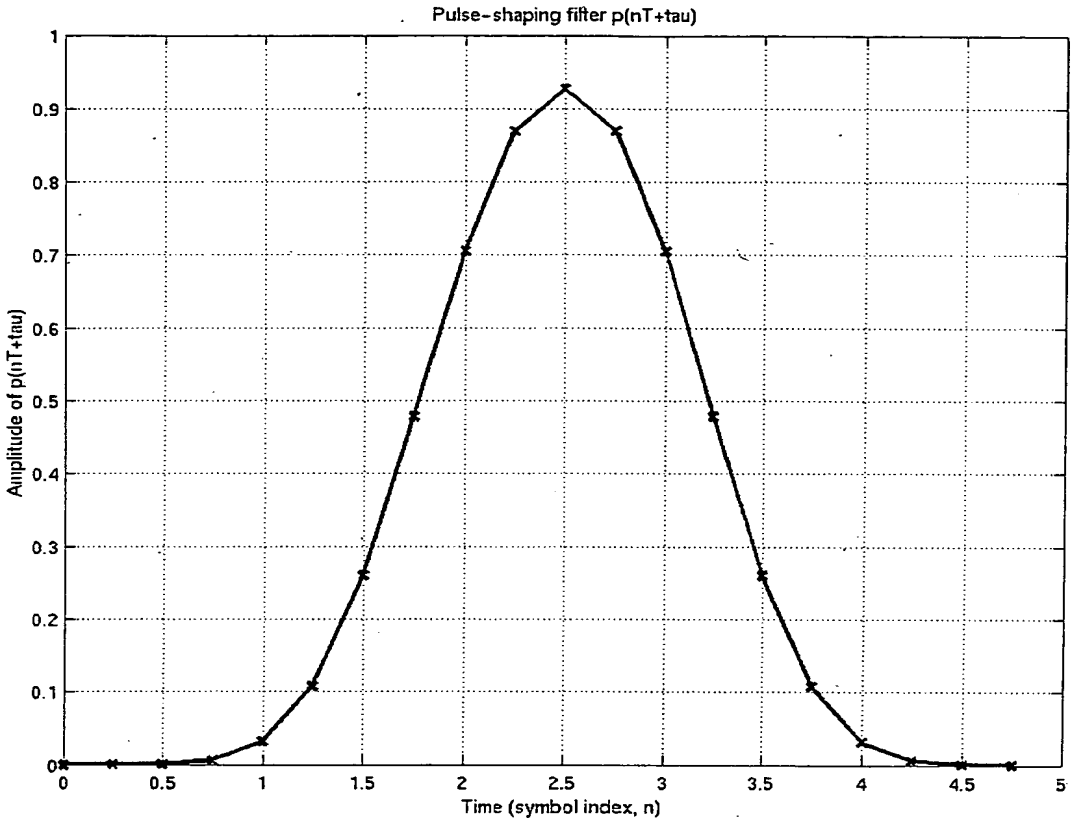
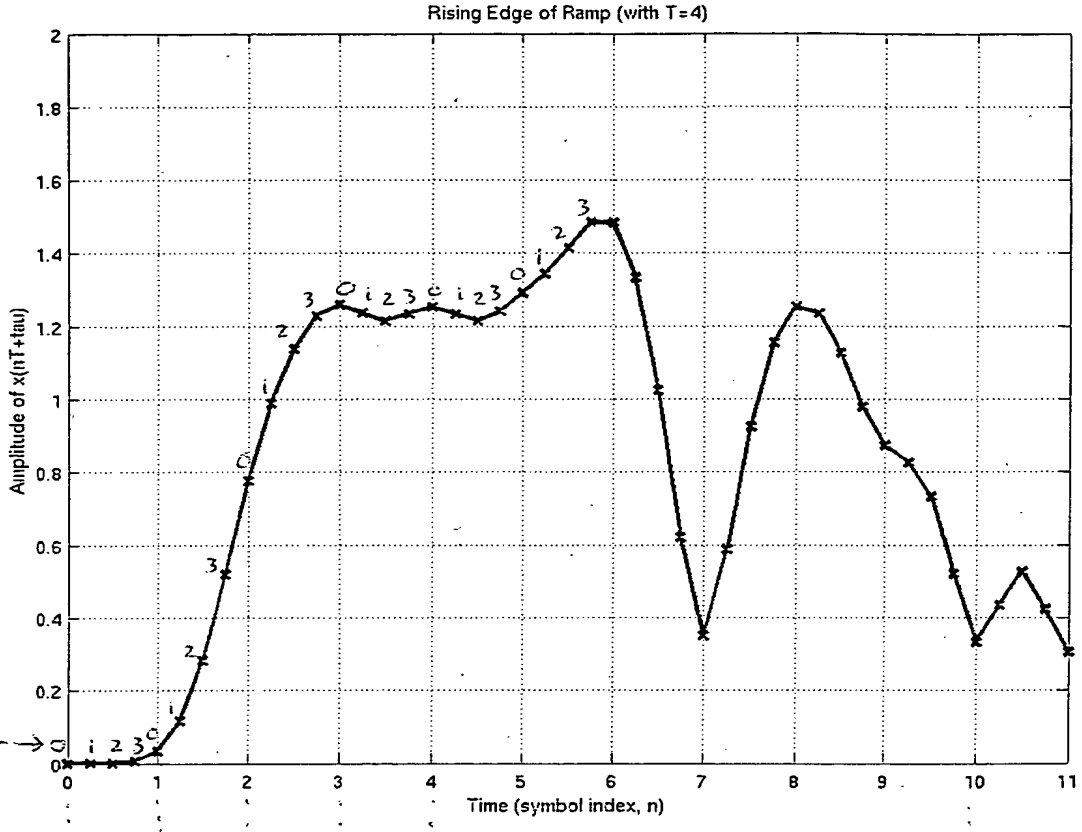

Pulse-shaping filter p(nT+tau)
Amplitude of p(nT+tau)
Time (symbol index, n)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5

Fig. 8



FT counter →

shift register contents

a_n	a_0	a_1	a_2	a_3	a_4	a_5	...	a_{10}
a_{n-1}	0	a_0	a_1	a_2	a_3	a_4	...	a_9
a_{n-2}	0	0	a_0	a_1	a_2	a_3	...	a_8
a_{n-3}	0	0	0	a_0	a_1	a_2	...	a_7
a_{n-4}	0	0	0	0	a_0	a_1	...	a_6

Fig. 9

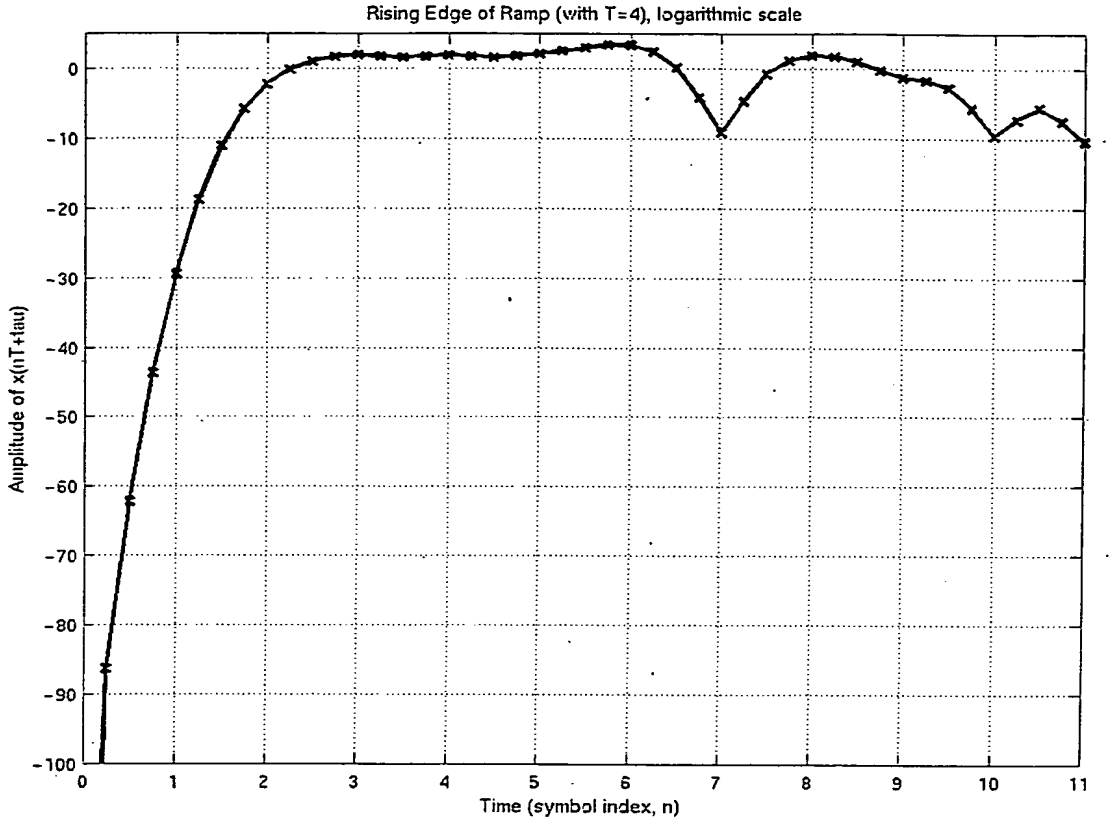
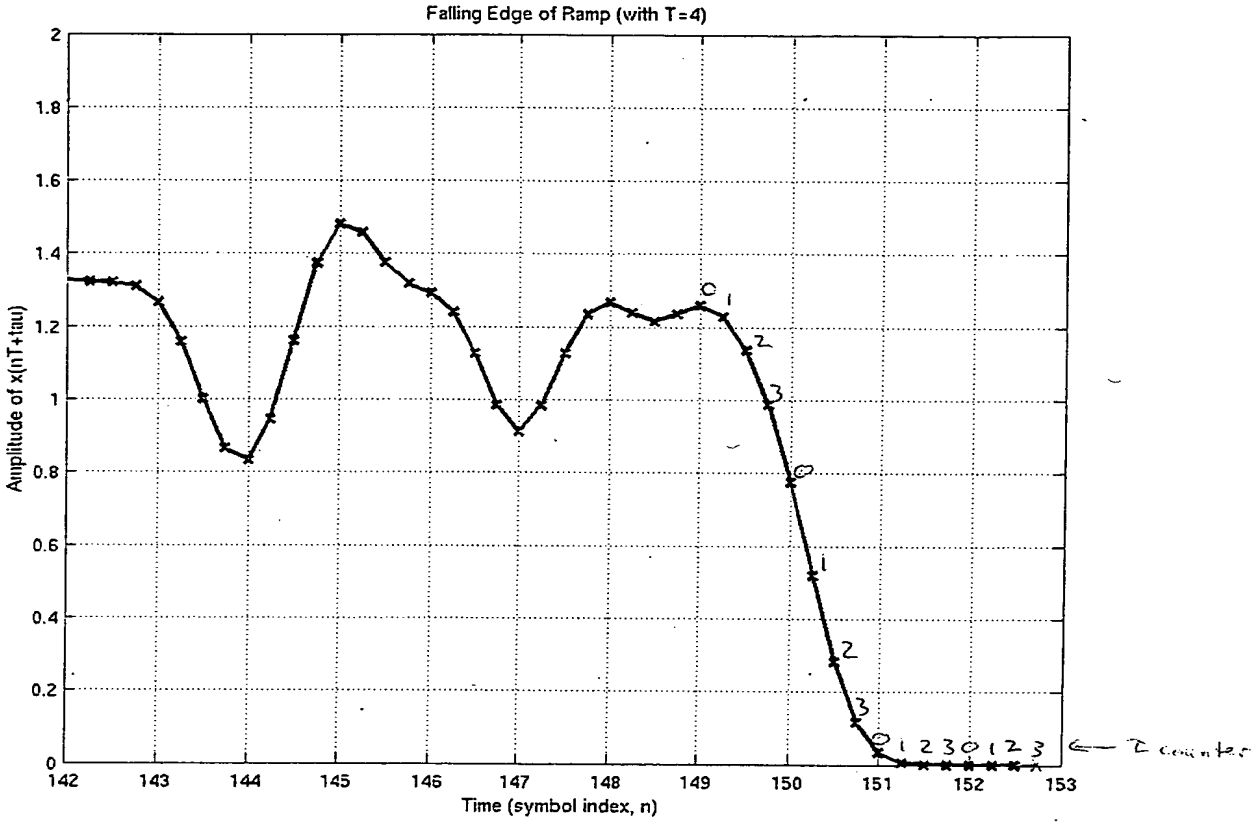


Fig. 10



shift register contents

a_n	a_{142}	a_{146}	a_{147}	0	0	0	0
a_{n-1}	a_{141}	a_{145}	a_{146}	a_{147}	0	0	0
a_{n-2}	a_{140}	a_{144}	a_{145}	a_{146}	a_{147}	0	0
a_{n-3}	a_{139}	a_{143}	a_{144}	a_{145}	a_{146}	a_{147}	0
a_{n-4}	a_{138}	a_{142}	a_{143}	a_{144}	a_{145}	a_{146}	a_{147}

Fig. 11

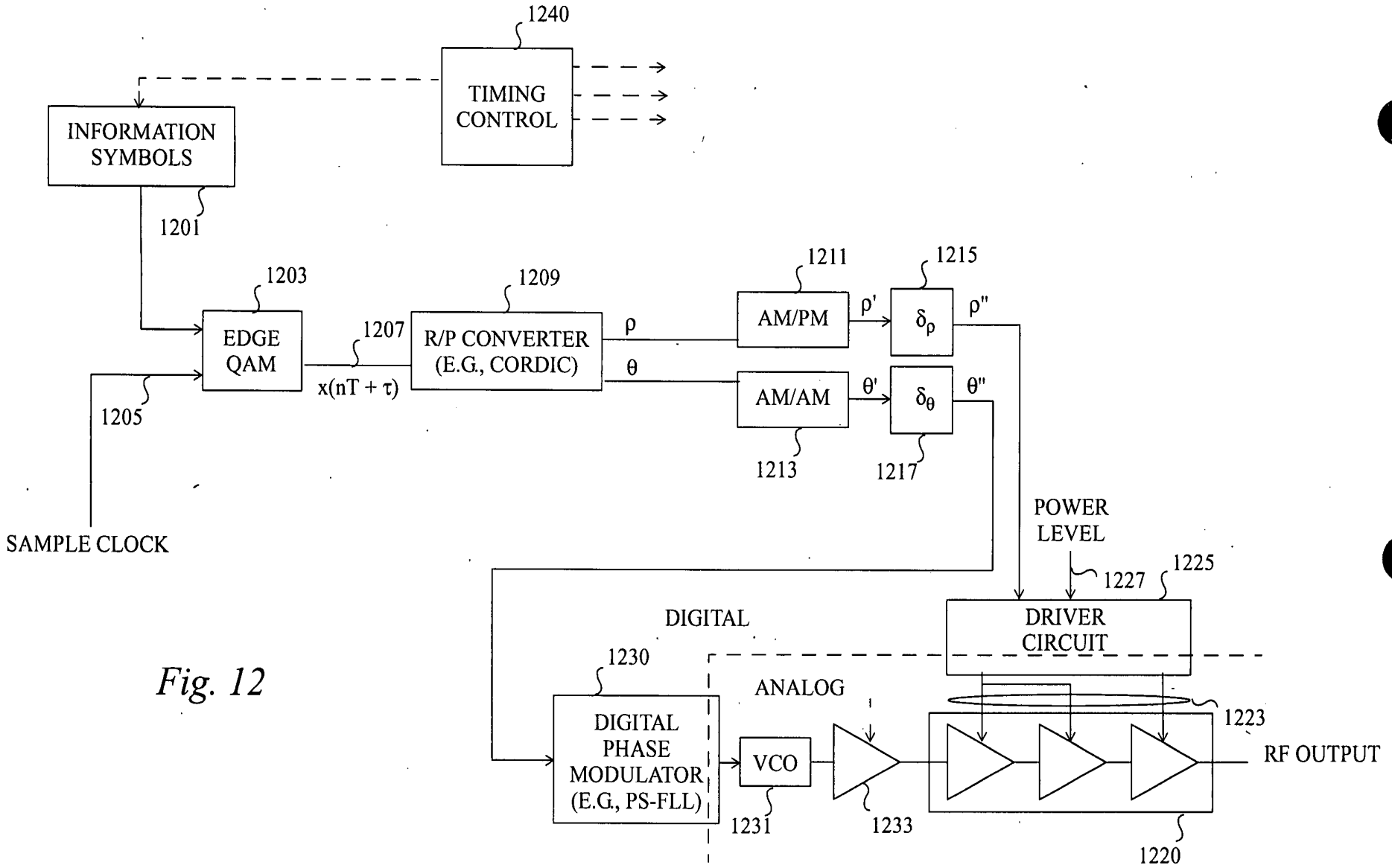

1240
TIMING CONTROL
INFORMATION SYMBOLS
1201
1203
EDGE QAM
1205
SAMPLE CLOCK
1207
x(nT + τ)
1209
R/P CONVERTER (E.G., CORDIC)
ρ
θ
1211
AM/PM
ρ'
1215
δρ
ρ"
AM/AM
θ'
δθ
θ"
1213
1217
POWER LEVEL
1227
1225
DRIVER CIRCUIT
DIGITAL
ANALOG
1230
DIGITAL PHASE MODULATOR (E.G., PS-FLL)
VCO
1231
1233
1223
RF OUTPUT
1220

Fig. 12

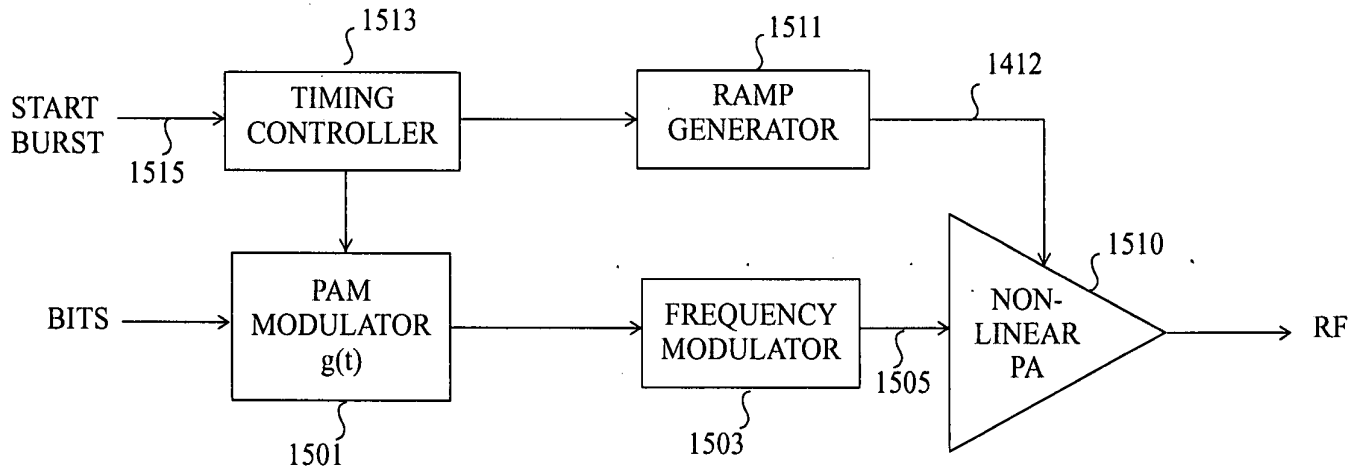

1513
1511
1412
START BURST
1515
TIMING CONTROLLER
RAMP GENERATOR
1510
BITS
PAM MODULATOR g(t)
FREQUENCY MODULATOR
NON-LINEAR PA
RF
1505
1501
1503

Fig. 15

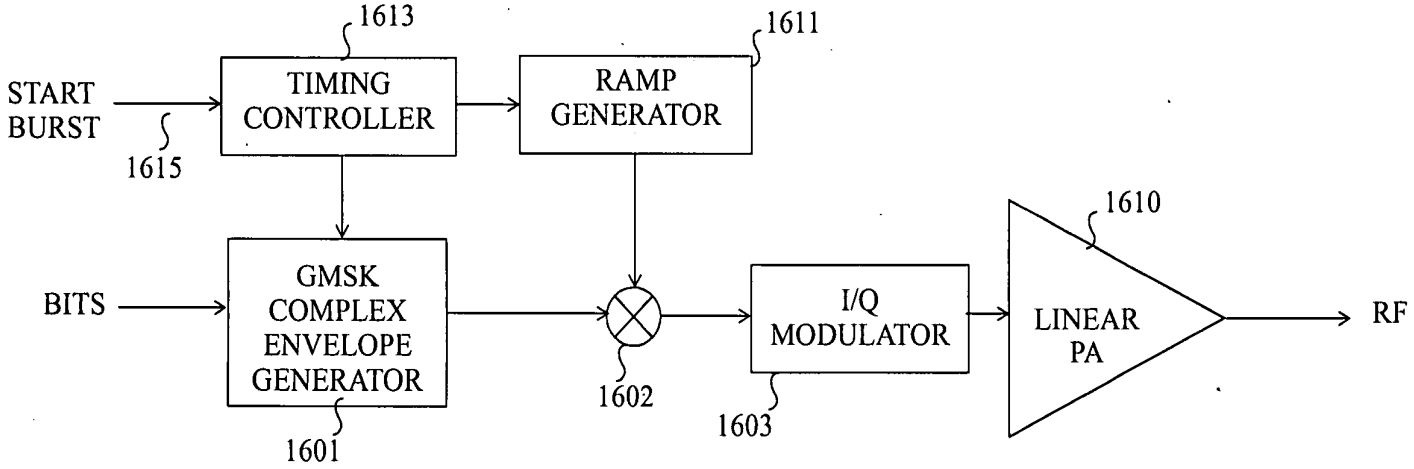

1613
1611
START BURST
1615
TIMING CONTROLLER
RAMP GENERATOR
1610
BITS
GMSK COMPLEX ENVELOPE GENERATOR
I/Q MODULATOR
LINEAR PA
RF
1602
1603
1601

Fig. 16

Fig. 14

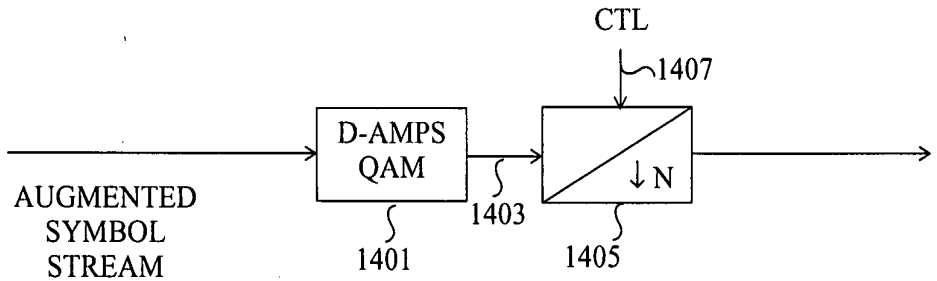
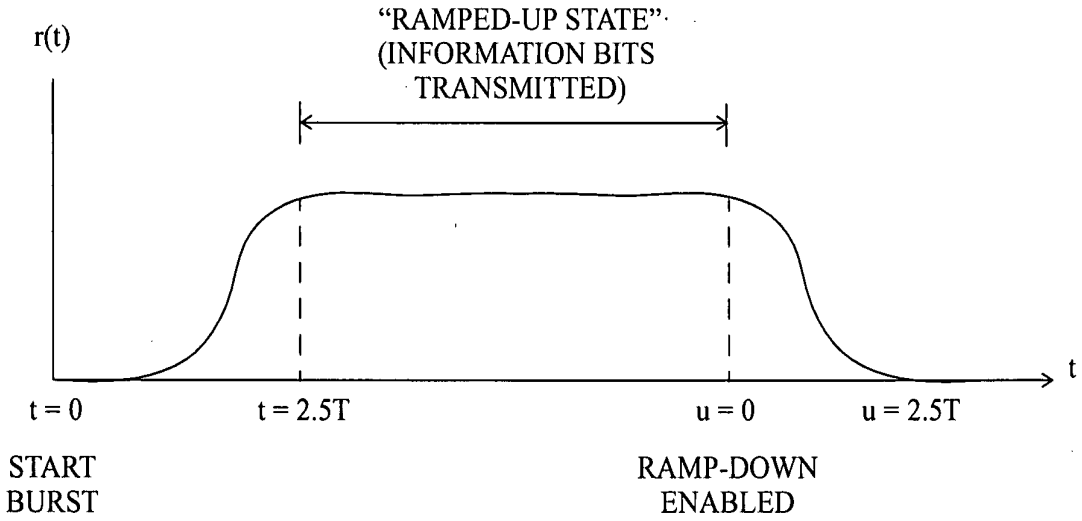


Fig. 17



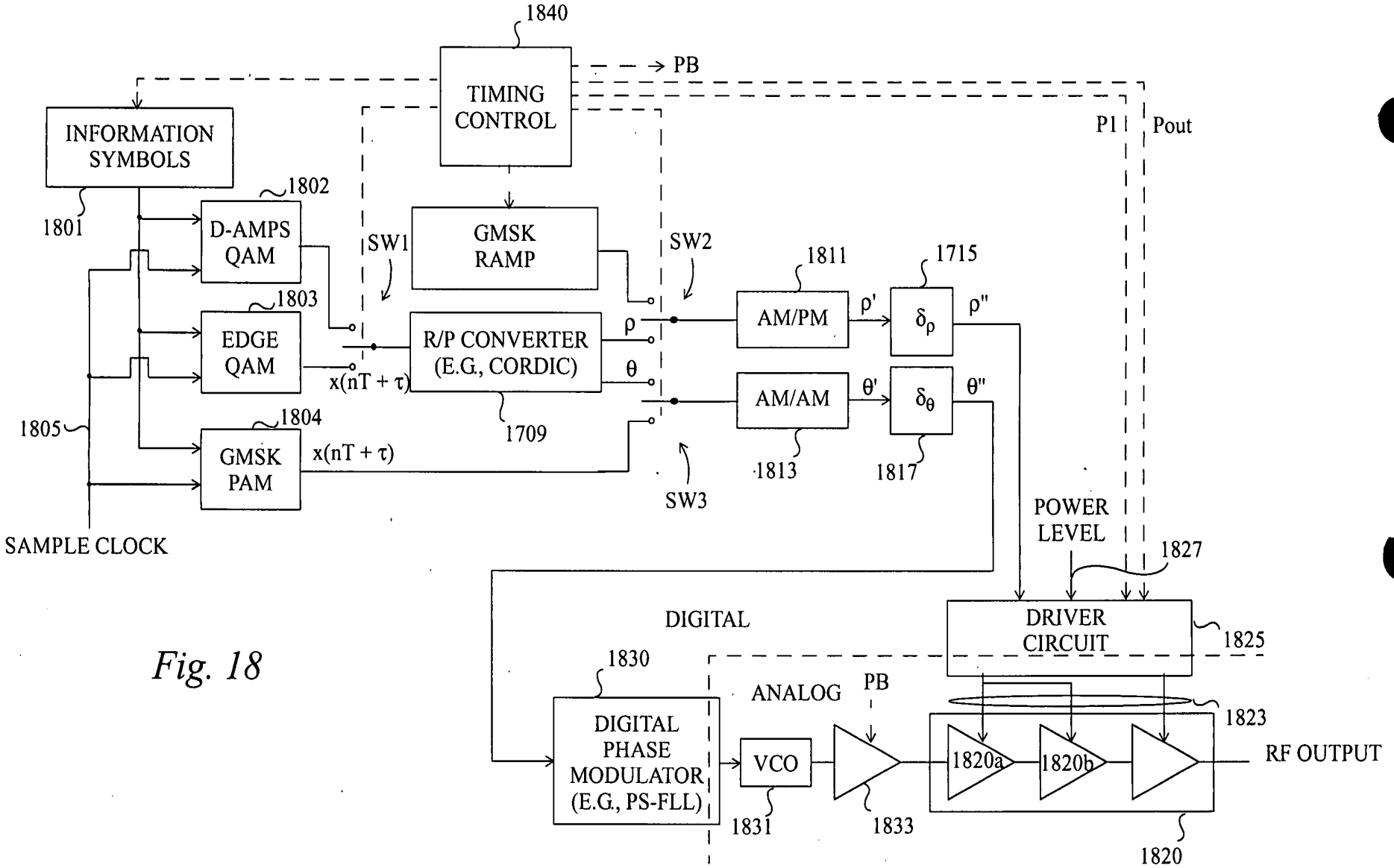


Fig. 18

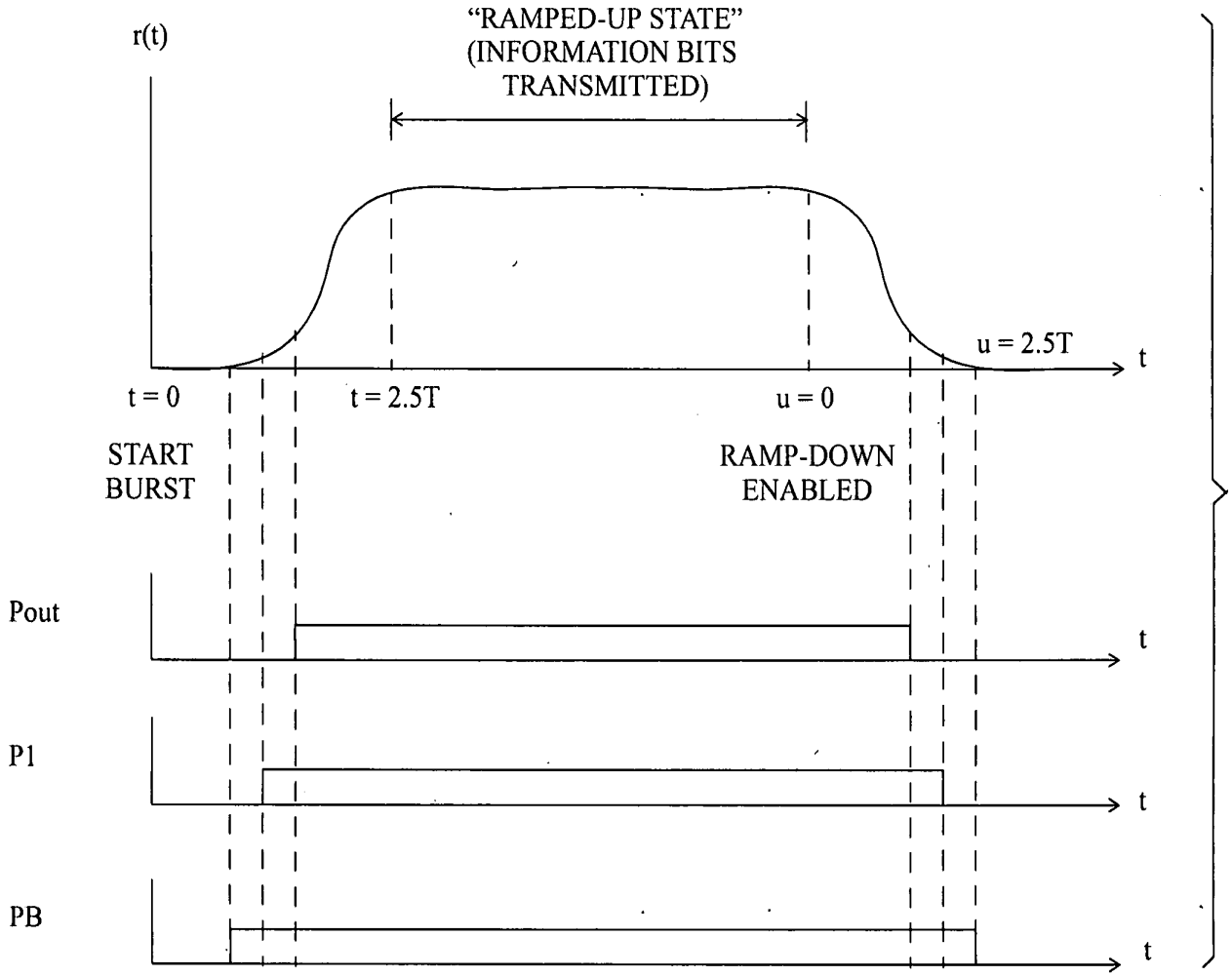


Fig. 19